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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 29, 1995

Lonnie Mills
Cyprus Plateau Mining Corporation
P. O. Drawer PMC
Price, Utah 84501

Re: Reclamation Plan to Cover Exposed Coal at Hardscrabble Canyon, AMAX Coal Company, Castle Gate Mine, ACT/007/004-94G, Folder #3, Carbon County, Utah

Dear Mr. Mills:

The Division has reviewed your revised permit change application dated March 3, 1995, which was intended to address deficiencies identified in the Division's December 14, 1994, review of the reclamation plan for covering an exposed coal seam. While most of the proposed response is acceptable it is still not considered adequate to allow approval at this time. The enclosed review document discusses the remaining deficiencies which center mainly around the blasting plan. Please examine the document making note of the requirement sections. You should provide a response by no later than April 28, 1995.

Please call if you have any questions.

Sincerely,

Daron R. Haddock
Permit Supervisor

blb
enclosure
cc: P. Baker
S. Johnson
P. Grubaugh-Littig

TECHNICAL ANALYSIS
COAL COVER AMENDMENT

AMAX COAL COMPANY
ACT/007/004-94G

MARCH 29, 1995

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Reclamation Backfilling and Grading Maps.

The Operator revised the cross-sections and topographic map to show the approximate location of the coal seams. The exact location of the seams will not be known until earthwork begins. The map and cross-sections show that the primary coal seam will have a minimum of four feet of cover and the rider seam will have two.

Findings:

The Operator has identified the approximate location of the coal seams. The backfilling and grading plans show that ideally the main coal seam will have a minimum of four feet of cover.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

R645-301-553.300. Exposed coal seams, acid- and toxic-forming materials, and combustible materials exposed, used, or produced during mining will be adequately covered with nontoxic and noncombustible materials, or treated, to control the impact on surface and ground water, in accordance with R645-301-731.100 through R645-301-731.522 and R645-301-731.800, to prevent sustained combustion and to minimize adverse effects on plant growth and the approved postmining land use.

Analysis:

The Operator states:

> *"The intent of the reclamation plan is to minimize additional exposure of the primary coal seam while generating sufficient material to cover the previously exposed coal seam. The surface survey conducted to formulate the plan mapped the location of the coal seam where it is exposed. The location, elevation, thickness, and dip of the primary coal seam are depicted on Exhibit 3.3-4A as accurately as possible using the survey information. The actual elevation and thickness of the coal seam upstream of the existing plunge pool, and currently below the ground surface, may vary slightly from the assumed location. If blasting inadvertently exposes more of the primary coal seam, the coal will be removed and replaced with noncoal granular fill so that there is 4 feet of fill over the primary coal seam. Coal generated during blasting will be used as backfill and covered with a minimum of 4 feet of non-acid and non-toxic forming materials. To achieve the aforementioned goals, minor modifications to the plan may be necessary once construction starts. These modifications will be reflected in the as-built drawings."*

It is possible that some of the rider seam may be exposed during the blasting and backfilling operation. The Operator has not adequately addressed what will be done to the exposed rider seam.

To minimize combustion and water pollution the Operator should commit to removing the exposed portions of the rider seam. The removed coal must either be disposed of off-site or covered with four feet of fill material. The Operator has committed to remove all the exposed coal from the primary seam and cover it with four feet of fill material.

Findings:

Except for the possible exposure of the rider seam the Operator has adequately addressed the backfilling and grading plans. The Operator needs to commit to removing any of the rider seam exposed and covering it with 4 feet of material.

Requirements:

The Operator must commit to removing any exposed coal and covering it with a minimum of 4 feet of cover.

USE OF EXPLOSIVES

Regulatory Reference: 30 CFR Sec. 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

Analysis:

In the permit application package the Operator says that:

> *"Blasting will be performed in accordance with the requirements of R645-301-524. A blast design has been developed specifically for this reclamation activity, and it is contained in Appendix 3.31."*

R645-301-524.240 says that:

> *"The blast design will be prepared and signed by a certified blaster; and"*

The blasting plan was not signed and there is no indication in the permit application package as to the qualifications of the person who designed the blasting plan.

The plan did not show where the explosives would be placed. The only maps in the blasting plan showed general hole patterns. The area to be blasted must be specified in the plan.

R645-301-524.300 says that:

> *"The pre-blasting survey must be described in the permit application. For the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES pre-blasting surveys are required for blasts that use more than five pounds of blasting agent or explosives."*

The Operator needs to conduct a pre-blast survey to determine if there are any dwellings or other structures that need to be examined before blasting.

R645-301-524.400 says that:

> *"The schedule of blasts will be described in the permit application":*

The Operator did not state what types of on-site warnings and access control will be used to protect the public.

Findings:

The blasting plan is inadequate. The deficiencies are listed in the requirement section.

Requirements:

1. The blasting plan must be signed by a certified blaster.

2. The Operator must show the location of the drill holes and extent of the area to be blasted.

3. The blasting plan must contain the findings of the pre-blast survey.

4. The blasting plan must contain information on how the public will be protected from the blast. The protection plan must include the warning signs and how access to the area will be controlled.

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-742, R645-301-760

Analysis:

This plan includes changed information on construction of the main channel, riprap, and sediment control in Hardscrabble Canyon. Design information for the channel is in Section 3.3-4(2), Reclamation Hydrology. Information on sediment control measures is located in Section 3.3-4(3), Alternative Sediment Control Measures.

Changes on channel design state that the filter blanket designs will be based on the native soil and potential filter material available. Both granular and fabric materials will be considered in construction designs, although page 3.3-31 says that a granular filter blanket will be used where possible in the construction of reclamation drainages. Detailed riprap designs will be made after the rough grading has been completed and surveys are made of the channel grade. These surveys will be used to better design the size of riprap needed. Final riprap and filter blanket designs will be submitted to the Division in as-built certifications.

The alternate sediment control plan was changed by adding contour furrowing as a possible method, and adding information that says measures that protect the surface from erosion or sediment production will be used over methods that filter sediment from runoff. There is no sediment pond treating this reclaimed area so all treatment will come from alternate sediment control measures. Several options will be considered as sediment control

on the reclaimed site, including straw bales, surface roughening, and sediment traps. A typical sediment trap design is included in Appendix 3.3E and on Figure 3.3-16. Prior to reclamation, AMAX will seek the Division's approval for sediment control measure application. AMAX Coal Company commits to minimize contribution of suspended solids to the stream channel below the disturbed area by using the alternate sediment control measures. Upon successful revegetation temporary sediment control measures will be removed.

AMAX Coal should reconsider the use of fabric filter blankets in final reclamation channel designs. Granular filters are more natural and if channel failure were to occur, they do not pose as many problems. The Division has in the past approved filter fabric for final reclamation channels based on stability designs, but prefers the use of granular filters when stability can be achieved without synthetic products. AMAX has agreed to first consider the granular filter.

Findings:

Alternate sediment control measures are appropriate for this reclaimed site. AMAX Coal has, at this point, left open the specific measure that they will use, which should not cause any problems as long as they are diligent about implementing sediment control. They have committed to soliciting approval from the Division prior to implementation.

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